MODIS TECHNICAL TEAM MEETING

April 8, 1999

Vince Salomonson chaired the MODIS Technical Team Meeting. Present were Ken Anderson, Bill Barnes, Barbara Conboy, Wayne Esaias, Al Fleig, Bruce Guenther, Dorothy Hall, Steve Kempler, Ed Masuoka, Bob Murphy, and Eric Vermote, with David Herring and John Weier taking the minutes.

1.0 SCHEDULE OF EVENTS

Next MODIS Science Team Meeting (Greenbelt, MD)	May 4–5, 1999 Greenbelt Marriott Hotel
PI Processing Meeting (GSFC)	May 12, 1999, 9:30 a.m. Building 28, Room E210
SAFARI Validation / Coordination Meeting (Boulder, CO)	May 12–14, 1999
Mini-SWAMP Meeting at EOS-IWG (Vail, CO)	June 15–17, 1999
SAFARI Program Implementation Meeting (Gabarone, Botswana)	July 26–30, 1999

2.0 MINUTES OF THE MEETING

2.1 Upcoming MODIS Science Team Meeting

Salomonson asked if there is an agenda for the upcoming Science Team Meeting. Murphy responded that preparing the agenda is at the top of his "to do" list. He and Guenther are scoping the agenda and plan to present a strawman agenda at the next meeting. Salomonson feels that the next Science Team Meeting should be a "working meeting." Discussions should focus on the data system. He encouraged programmers supporting discipline PIs to attend.

Regarding early flight operations, Salomonson said he would like a half-hour presentation. Guenther said Chris Justice asked him what MODIS data products will look like shortly after launch. Guenther asked whether Salomonson would like that to be a public or private discussion at the Science Team Meeting. Salomonson prefers to have the details discussed publicly, but also wants the presentation to focus on the requirements for success. Guenther said the team will succeed, but there will be problems with the data at the beginning. Fleig asked for Guenther's best guess as to how quickly the data will get better. Vermote interjected that he is concerned that early on MODIS will collect Earth

data while its cooler is not yet fully efficient; therefore, the data quality will be poorer. Salomonson concluded that Guenther's presentation should be responsive to the concerns of the Science Team.

Esaias told the team that there will be an Ocean Discipline Group Meeting on Tuesday. The group will discuss early production of data products at that meeting. In terms of citing MODIS' "warts," Murphy asked if this type of discussion should be in a closed-door session. Guenther stated that the scattering problem has a different effect on band ratio algorithms. He could give a quick summary of the problem, or he could take some data products from the Ocean Color Thermal Scanner (OCTS) to show how the problem will occur in the Ocean bands. Esaias said for the ocean color product, the atmospheric correction algorithm tends to correct for this effect by assigning a different angstrom coefficient. For other aerosol algorithms, the scattering may have a different effect. Murphy suggested having Watson Gregg present his findings from early processing of OCTS and SeaWiFS data to help the MODIS team prepare.

Salomonson stated that one day of the meeting should be for open discussions, and the other day closed. Esaias said that SIMBIOS folks would very much like to hear about the problems so that they can be prepared for early processing of data. Salomonson concluded that the presentations should be reviewed a week before the meeting so that there are no surprises.

2.2 MODIS Project Reports

Anderson reported that not much has changed on the MODIS protoflight model. The pre-ship review went well. The ground system discussions at this review went well, but raised some concerns. The ground system is not yet ready, but Anderson feels it will be ready by July.

He noted that the Air Force has an Atlas launch scheduled in June that could impact Terra's launch date.

Regarding the SRCA, Anderson confirmed that Project did get those data from the end-to-end test. His team is still troubleshooting power supply problems on the Flight Model-1. The power supplies (primary and redundant) are currently experiencing shutdowns and Anderson doesn't yet know why. Guenther asked if this will also be a problem on the protoflight model. Anderson said no, adding that there is a good chance that the problem is either parts-specific or workmanship-related. Barnes said there is a witness sample to the solar diffuser that can be removed before launch if the team wants it out. It is small and he's not sure if it can measure BRDF. He suggested making an absorption scan on it to make sure there is no contamination.

2.3 MCST Reports

Guenther told the team that MCST is working with the GDAAC and the SCF to get the lookup tables and indices completed on schedule. He is trying to find ways to meet MCST's schedule, but feels that in the first 90 days after launch, there will need to be changes to the lookup tables every day. But, if these changes are run through the standard system integration and testing process,

then daily changes in the lookup tables would not be viable. So, he is looking for "workarounds." Guenther also expects to find occasional errors in terms of how code was written and how MCST thinks it will operate, as opposed to how it really operates once MODIS is in orbit. He added that current schedules may not easily accommodate input of code into the GDAAC, so he is working that issue with Kempler.

2.4 GDAAC Reports

Kempler announced that the PGE01 subsetter for CERES is in progress. GES DAAC personnel are meeting bi-weekly with MCST personnel, which has proved very fruitful. He plans to complete the integration of the PGE01 subsetter next week. He is also working with SDST on the schedule of PGE02 updates over the next week.

Regarding EOSDIS Core System, Kempler said he is watching the Operational Readiness Exercises (OREs) very carefully. A subset of the OREs will satisfy the TESS test.

Murphy asked for Kempler's feedback regarding the spacecraft end-to-end test. Kempler responded that data entered into the GDAAC. Victory was declared, but there were some small problems that have been worked. But in short, the GDAAC received data.

2.5 SDST Reports

Masuoka showed a graphic of a MODIS granule image (see Attachment 2), and announced that this same information is available on-line, at http://mtvs1.nascom.nasa.gov:8001/report/beta/. He explained that red dots and holes indicate failures; SDST is still working to understand those. However, the MODIS Emergency Backup Data Operating System (MEBDOS) has been running solidly since SDST entered its last set of software patches. The dark and light green dots indicate optimal operations. Grey dots indicate night mode.

Masuoka showed a MODIS data product chart that is color-coded to indicate the status of each (Attachment 3). He said that SDST and LDOPE (Land Data Operational Product Evaluation) staff found some problems in the L1B product. These problems will be fixed by MCST with an April 12 delivery. SDST is implementing patches for all three Level 1 products and when the patches are tested they will be delivered to the GSFC DAAC for integration into their system. Level 2 Oceans products are undergoing engineering tests by the MODAPS developers and will then be run in MODAPS during full-scale production tests. Masuoka said SDST received the revised Level 2 Snow software delivery from George Riggs that includes the capability to read the at-launch Level 1B format.

Masuoka reported that SDST has finished unit testing the 8-day Level 3 surface reflectance and fire PGEs. His goal is to get a lot of the yellow boxes (on Attachment 3) both at the DAAC and MODAPS out of the way before the Operations Readiness Review on in mid-June.

2.6 Ocean Group Reports

Esaias asked Masuoka if the yellow boxes mean that those Ocean products are finished with testing on April 16. Masuoka said there is another test after that date when the next version of Ocean software is delivered, around April 22. The STIG will finish its test, then another will be run when Gang Ye integrates the code into MODAPS. Masuoka will report to the team on May 11; hopefully, that all software is in and running.

Esaias reported that Dennis Clark is planning an initialization cruise on the RV Melville. Clark has submitted his report, with crew list. Salomonson stated that he is impressed by the current SIMBIOS Project status. Near-real-time SeaWiFS images are being provided to 81 different cruises. Esaias noted that SeaWiFS images are delayed for 2 weeks prior to posting on the Web; however, they are being provided to these cruises in an expedited fashion.

2.7 MODLAND Reports

Regarding the end-to-end test, Vermote reported that so far version 2.2.4 is more successful than 2.2.3. The system has not been brought down since the test started 2.5 days ago. He thanked the operations team for their efforts on the new version.

2.8 SNOMAP Update

Hall told the team two weeks ago that she, along with Jon Barton and George Riggs, had successfully applied the SNOMAP algorithm to NOAA data. Subsequently, they did a simulation of a MODIS 8-day composite. She produced an image of maximum snow cover for a 7-day period that looks good. She compared the image to the NORSC product and it corresponded very well. This test indicates that she can produce snow cover maps quite quickly, and that the SNOMAP product should be ready at launch.

Regarding early release of MODIS imagery, Salomonson said he has discussed an idea with Yoram Kaufman. He suggested the first release of MODIS images should be over the east coast.

2.9 MAST Reports

Conboy noted that Masuoka asked her to look into the U.S. Government Rules and Regulations for getting clear title to the software being developed by the MODIS Team members. If the current contracts don't state clear title, she said there are some forms to be filled out and bilateral contract modifications to be completed. Conboy will work with Masuoka to make sure the appropriate action is taken. Salomonson asked if there are any grounds for the contractor not to sign the bilateral modification. Conboy doesn't think so; she was told there has never been a case where the rights were denied to NASA. Masuoka said he would check with GSC to make sure NASA has clear title to its software.

2.10 Terra Outreach Reports

Herring reported that Jim Collatz, Terra Assistant Project Scientist, and he met with Goddard Public Affairs (PAO) to discuss plans for the very first public release of images from the Terra sensors. He said that PAO would like the first images from all five sensors to be shown together in a joint press conference. The

idea is to show the synergy among each of the sensors. Salomonson asked if he expects each team to wait for a joint press conference before releasing early images. Herring responded affirmatively, stating that Kaufman has sent correspondence to each instrument team leader to inform them of this strategy.

Herring announced that the Earth Observatory (beta version) web site will be publicly unveiled on April 22. He encouraged the MODIS team to visit the site and "kick the tires," at http://earthobservatory.nasa.gov.

2.10 MODIS Project Science Reports

Murphy told the team that the follow-on idea to MODIS for NPP was presented to Ghassem Asrar and Bob Whinnaker. Murphy said they agreed "in principle" to proceed with the mission.

Regarding data product release to NOAA using the "bent pipe" system, Murphy said a NOAA representative will have to work with MODIS' appropriate science discipline group representatives to work the details.

3.0 ACTION ITEMS

3.1 New Action Items

1. Discipline Group Leaders: review Murphy's e-mail regarding NOAA access to MODIS data and forward specific comments to Murphy by April 8.
2. Murphy: begin developing the MODIS Science Team Meeting Agenda; present a strawman at the April 8 Technical Team Meeting.
3. Masuoka: report on the sustained ops and throughput issues at the April 8 Tech Team Meeting.
4. Masuoka: follow up on the issue of ECS's possible early delivery of the SIPS interface and report at the April 8 Tech Team Meeting.
5. Roberto and GDAAC: provide a summary report of the MODIS end-to-end test for presentation at the April 8 Tech Team Meeting.

3.2 Action Items Carried Forward

1. Barnes: Work with Wayne Esaias to complete the written and viewgraph versions of the Oceans Validation Plan.

2. Murphy: Create a mechanism for coordinating MODIS operations and other schedules that includes an interactive listing. It should be more than a passive posting of schedules on the World Wide Web. Such an interactive schedule could be used by MODIS science discipline teams to coordinate field campaigns or by the operations group to coordinate MODIS activities with the other Terra instruments' activities.

Status: This item remains open.

3. Murphy: Clarify the data release agreements between NASA and NOAA on MODIS data, including MODIS requirements and which of these requirements NOAA will accommodate. Discuss these items with Legg and Tarpley of NOAA.

Status: This item remains open. Draft MOU is being worked by Murphy, Tarpley, Legg, and Masuoka.

5. Heney and Howard: Develop a weekly MODIS news page linked to the MODIS home Web site. It should include hot items and reflect weekly progress.

Status: This item remains open.

6. Murphy: Follow up on the status of the PI Processing working agreement with ESDIS.

Status: This item remains open. The conveyance memo from SDDT's and Discipline leaders will be signed this week (the week of March 8–12).

7. Murphy: Investigate the status of direct broadcast and present an update to the Technical Team.

Status: This item remains open.

8. Murphy: Coordinate a MODIS approach for radiance-to-brightness temperature conversions.

Status: This action remains open.

9. Masuoka: Submit an EOS-PM Data Product Update to ESDIS.

Status: This action item remains open.

10. Masuoka: Examine status of DAO ancillary products for MODIS.

Status: This item remains open.

3.2 Closed Action Items

4. Conboy and Howard: Plan for the next MODIS Science Team meeting in May.

Status: Planning and preparing for the Science Team Meeting are ongoing up to the day before the meeting, but the logistics planning is complete.